DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY ALASKA
Fort Richardson, Alaska 99505-7100

United States Army Alaska Regulation 750-4 **16 February 2006**

Maintenance of Supplies and Equipment

Lubricants, Fuels, Fuel Additives, and Fluids for Ground Equipment

Summary. This regulation about lubricants, fuels, fuel additives, and fluids used in United States Army Alaska (USARAK) ground vehicles has been revised. This regulation sets forth USARAK policies for using lubricants, fuels, fuel additives, hydraulic fluids, brake fluids, alcohol evaporator systems, and windshield washer fluids.

Applicability. This regulation is applicable to all organizations assigned or attached to USARAK.

Supplementation. Supplementation of this regulation is prohibited without prior approval from the USARAK G-4, APVR-RDL-M.

Interim changes. Interim changes to this regulation are not official unless they are authenticated by the Director of Information Management. Users will destroy interim changes on their expiration dates unless superseded or rescinded.

Suggested improvements. The proponent agency for this regulation is USARAK G-4 Maintenance Branch. Users are invited to send comments and suggested improvements on Department of the Army (DA) Form 2028 (Recommended Changes to Publications and Blank Forms) directly to APVR-RDL-M.

1. Purpose.

This regulation's purpose is to provide USARAK command policy on lubricant, fuel, fuel additive, hydraulic fluid, brake fluid, alcohol evaporator system, and windshield washer fluid usage. This regulation pertains to both commercial and military designed equipment, except aircraft. Aircraft technical manuals and pertinent technical publications contain like-type information for aircraft.

2. References.

a. Related publication. A related reference is merely a source of additional information. The user does not have to read it to understand this regulation. Field Manual (FM) 9-207 (Operation and Maintenance of Ordnance Materiel in Cold Weather (0 Degrees to Minus 65 Degrees Fahrenheit)) is a related publication.

b. Referenced form. DA Form 2028 (Recommended Changes to Publications and Blank Forms) is a referenced form. It is cited in the suggested improvements statement.

3. Explanation of abbreviations.

The abbreviations used in this publication are listed in the glossary.

4. Responsibilities.

***This regulation supersedes USARAK Regulation 750-4, dated 30 November 1996**

a. The Chief of USARAK G-4 Maintenance is responsible for coordinating policies with higher headquarters and technical activities and publishing needed policies for the command.

b. Commanders at all levels are responsible for assuring that materials and procedures specified herein are used.

5. General.

a. Alaska's extreme weather and the inability of technical publications to stay abreast of changes in technology dictate the need for a local policy that can be readily updated.

b. During the equipment manufacturer's warranty period, use manufacturer-specified products and procedures. After the warranty expires, use materials and procedures specified in this regulation.

c. This regulation addresses only the usual Alaskan climatic conditions. Units that must deploy to climate conditions not common to Alaska must follow the appropriate equipment lubrication order .

6. Policy.

Appendixes A through D contain the current USARAK policy that supersedes all previous instructions.

FOR THE COMMANDER:

HAZEN L. BARON
COL, GS
Chief of Staff

OFFICIAL:

JEFFERY R. SCHILLING
LTC, SC
Director of Information Management

DISTRIBUTION:
Copy posted at http://www.usarak.army.mil/publications

Appendix A.
Lubricants.

A-1. Gasoline, diesel, and multifuel engines. USARAK commanders will utilize only Oil, Engine, Synthetic, OEA, 0W30 on a year round basis unless otherwise specified by the component manufacturer. Table A-1 shows the lubricant's temperature limitations for gasoline, diesel, and multifuel engine usage.

Table A-1.
Gasoline, diesel, and multifuel engine lubricant temperature limitations

Lubricant	Lower Limitation	Upper Limitation
OEA 0W30	-67 degrees Fahrenheit*	+90 degrees Fahrenheit

*This temperature is without external heaters. With heat, oil is satisfactory at much lower temperatures.

A-2. Transmissions, gear cases, and hydraulic and power steering systems. Table A-2 shows the temperature limitations for the lubricants used in this equipment.

a. Automatic transmissions and hydraulic and power steering systems. Use OEA 0W30 in automatic transmissions and hydraulic and power steering systems on a year-round basis. OEA 0W30 is compatible with all types of automatic transmission fluids (including Dexron III). OEA 0W30 can be mixed with other transmission fluids or other transmission fluids can be added to it.

b. Semiautomatic transmissions (including all Caterpillar series transmissions). When temperatures permit, 15W40 is the preferred oil for these transmissions.

c. Allison transmissions utilized in the FMTV will use OEA 0W30 only.

Table A-2.
Transmission, gear case, and hydraulic and power steering system lubricant temperature limitations

Lubricant	Lower Limitation	Upper Limitation
15W40	-10 degrees Fahrenheit	+212 degrees Fahrenheit
OEA 0W30	-67 degrees Fahrenheit	+90 degrees Fahrenheit

A-3. Gear cases. Manual transmissions, transfers, differentials, and final drives that normally utilize GO90/140; use oil, gear, 75/90 Synthetic. Some manufacturers may require different lubricants in specific applications; for example, the HEMTT and the HMMWV transfer cases use OEA 0W30.

A-4. Chassis. Use grease, automotive and artillery (GAA) for chassis lubrication, including wheel bearings.

A-5. Weapons. Table A-3 shows the temperature limitations for the lubricants used in weapons.

a. Small arms and machine guns.

(1). Use lubricating oil, weapon (LAW), lubricating oil, small arms (LSA), cleaner lubricant and preservative (CLP), and rifle bore cleaner (RBC) on your weapons.

(2). Do not mix lubricants on the same weapon. Thoroughly clean the weapon when changing from one lubricant to another. PRF-680 is recommended for cleaning when changing from one lubricant to another.

(3). Remove excessive lubricant from the bore and chamber before firing the weapon.

(4) The preferred lubricant for the MK19 Grenade Machine Gun to -25F is LSAT (GMD may be used if LSAT is unavailable). LAW will be utilized at temperatures of -25F and lower.

b. Crew served weapons. Do not use CLP on the M224, 60 millimeter mortar or the M252, 81 millimeter mortar (improved). The recommended lubricants for these weapons are LAW, LSA, or RBC.

c. Artillery. Use WTR (Wide Temperature Range) grease instead of Grease, Automotive and Artillery (GAA) applications. Caution: use only hydraulic fluid (OHT) in the recoil mechanism. When specifically directed by the TM to use GMD caution should be used to insure GMD does not come in contact with O-rings.

Table A-3.
Weapon lubricant temperature limitations.

Lubricant	Lower Limitation	Upper Limitation
LAW	None	+10 degrees Fahrenheit
LSA	-10 degrees Fahrenheit	None
CLP	-10 degrees Fahrenheit	None
RBC	None	None
WTR	-80 degrees Fahrenheit	+350 degrees Fahrenheit
LSAT	-25 degrees Fahrenheit	None
GMD	-100 degrees Fahrenheit	None
GPL	0 degree Fahrenheit	None

A-6. Sighting and fire control equipment. Use only Instrument Lubricating Oil (ILO) or Grease Instrument Aircraft (GIA).

Note: Always keep weapons clean and use lubricant sparingly.

Appendix B.
Fuels and Fuel Additives.

B-1. Gasoline, Automotive, Unleaded or Low-lead, VV-G-1690B. Unleaded gasoline is the only fuel authorized for gasoline-powered equipment.

B-2. Diesel Fuel. Use JP-8 for all multifuel- and diesel-powered equipment.

B-3. Additives. Ether. Using ether or a similar-type fluid as a starting aid is strictly prohibited, except when the equipment's original configuration includes such a system as a starting aid. The factory-installed systems meter a mixture into the engine that will not cause damage. Using a spray can or other means to inject a mixture into the engine is likely to cause internal engine damage and is extremely dangerous to personnel.

Appendix C.
Miscellaneous Fluids.

C-1. Brake fluid. The only brake fluid authorized for use is as specified in the vehicle lubrication order (LO).

C-2. Alcohol evaporator systems. Vehicles equipped with air braking systems must have an operable alcohol evaporator system which draws vaporized alcohol into the compressed air system or an air dryer system installed during cold weather (0 degrees to -65 degrees Fahrenheit). These systems are designed to prevent the forming and freezing of condensation in the air systems. An inoperable alcohol evaporative system or air dryer system from 1 October through 31 April renders the vehicle not mission capable (NMC)

a. A bolt-on type evaporator kit is available under national stock number 2530-00-859-7335.

b. Use only methanol technical, type OM 232 in this system.

Appendix D.
Lubricants and Miscellaneous Fluids

Table D-1 lists antifreeze, fuels, hydraulic fluids, and cold weather lubricants used in cold weather (0 to -65 degrees Fahrenheit**)**

Table D-1.
Lubricants and miscellaneous fluids used in cold weather (0 to -65 degrees Fahrenheit).

Item	NSN	Container Size
Lubricating Oil Aircraft (Instrument) (OAI) (MIL-L-60)	9150-00-223-4129	1-quart
Antifreeze: Ethylene Glycol (MIL-A-46153)	6650-00-181-7933 6850-01-464-9152	5-gallon can 55-gallon drum
Brake Fluid, Silicone (BFS) (MIL-B-46176)	9150-01-102-9455 9150-01-072-8379	1-gallon plastic container 55-gallon drum
Cleaner, Lubricant Preservative (CLP) (MIL-PRF-63460	9150-01-053-6688 9150-01-054-6453 9150-01-102-1473 9150-01-079-6124 9150-01-054-6453	1-gallon drum 1-pint container 4-ounce liquid 4-ounce liquid 16-ounce aerosol
Grease, Molybdenum Disulfide (GMD)	9150-00-935-4018 9150-00-754-2595 9150-00-223-4004 9150-00-965-2003	14-ounce cartridge 1.5-pound can 5-pound can 35-pound can
GPL, Lubricating Oil, General Purpose	9150-00-271-8427	4-ounce bottle
	9150-00-231-2361	1-quart can
	9150-00-231-2356	5-gallon can
	9150-00-231-2357	55-gallon drum
Grease, Wide Temperature Range (WTR)	9150-00-181-7724	8-ounce tube
(MIL-G-81332)	9150-00-944-8953	1.75-pound can
	9150-00-145-0268	6.5-pound can
	9150-00-935-5851	35-pound can
Cleaning, Compound, Windshield	6850-00-926-2275	16-ounce bottle

Table D-1 (cont'd).
Lubricants and miscellaneous fluids used in cold weather (0 to -65 degrees Fahrenheit).

Item	NSN	Container Size
Gasoline, Automotive Unleaded		All bulk
Volatility Class E:		
Limited, Unleaded (VV-G-1690)	9120-00-148-7102	
Regular, Unleaded (VV-G-1690)	9130-00-148-7102	
Premium, Unleaded (VV-G-1690)	9130-00-148-7102	
Grease, Aircraft Instrument (GIA)	9150-00-985-7245	8-ounce tube
(MIL-G-23827)	9150-00-985-7246	1.75-pound can
	9150-00-985-7247	6.5-pound can
	9150-00-935-4017	14-ounce cartridge
Grease, Automotive and Artillery (GAA)	9150-01-197-7688	2.25-ounce tube
	9150-01-197-7693	14-ounce cartridge
	9150-01-197-7690	1.75-pound can
	9150-01-197-7689	6.5-pound can
	9150-01-197-7692	35-pound pail
	9150-01-197-7691	120-pound drum
Hydraulic Fluid, Petroleum Base	9150-00-935-9807	1-quart can
(OHT) (MIL-H-6083C)	9150-00-935-9808	1-gallon can
	9150-00-935-9809	5-gallon can
	9150-00-935-9810	55-gallon drum
Inhibitor, Corrosion (Antifreeze	6850-01-160-3868	1 quart
Extender) (MIL-A-53009)		
Methanol Technical (Air Brake Evaporative	6810-00-597-3608	1-gallon can
System Additive)	6810-00-275-6010	5-gallon can
(OM-232)	6850-00-224-8353	55-gallon drum
Fuel Oil, Diesel,(JP-8)	9130-01-031-5816	Bulk
MIL-DTL-83133E		
Oil, Engine Arctic (OEA)	9150-00-402-4478	1-quart can
(MIL-L-46167)	9150-00-402-2372	5-gallon can
	9150-00-491-7197	55-gallon drum
Oil, Engine, 15W40 (MIL-L-2104D)	9150-01-178-4725	1-quart plastic bottle
	9150-01-152-4117	1-quart can
	9150-01-152-4118	5-gallon can
	9150-01-152-4119	55-gallon drum
Lubricating Oil Gear (GO 75W)	9150-01-035-5390	1-quart can
(MIL-L-2105C)	9150-01-048-4593	1-gallon can
	9150-01-035-5391	5-gallon can
Lubricating Oil Gear (Synthetic),	9150-01-363-1192	1-quart can
75W90 (MIL-L-2105D)		

Table D-1 (cont'd).
Lubricants and miscellaneous fluids used in cold weather (0 to -65 degrees Fahrenheit).

Item	NSN	Container Size
Lubricating Oil Gear Oil Go 80-90 (MIL-L-2105C)	9150-01-035-5392 9150-01-035-5393 9150-01-035-5394	1-quart can 5-gallon can 55-gallon drum
Lubricating Oil Aircraft Turbine, Synthetic (MIL-L-7808) (*Note 1)	9150-00-782-2627 9150-00-270-4057 9150-00-782-2679	1-quart can 1-gallon can 55-gallon drum
Oil, Lubricating Small Arms (LSA) (MIL-L-46000)	9150-00-935-6597 9150-00-889-3522 9150-00-687-4241	2-ounce bottle 4-ounce bottle 1-quart can
Lubricating Oil, Semi Fluid	9150-00-753-4686	1-gallon can
Lubricating, Oil Weapon (LAW) (MIL-L-14107A)	9150-00-292-9689 9150-00-292-9687	1-quart can 5-gallon can
Rifle Bore Cleaner (RBC) (MIL-C-372)	6850-00-224-6656 6850-00-224-6657 6850-00-224-6658 6850-00-224-6663	2-ounce bottle 8-ounce can 1-quart can 1-gallon can
Lubricant, Weapon, Semi-Fluid (LSAT-T) (MIL-L-46150)	9150-00-949-0323 6850-00-274-5421	8-ounce tube 1-gallon can

Note 1. For use in Quiet Reliable Generators (QRG).

Glossary
Abbreviations

BFS .....Brake Fluid, Silicone

CLP .....Cleaner Lubricant and Preservative

DA .....Department of the Army

GAA.....Grease, Automotive and Artillery

GIA .....Grease Instrument Aircraft

GPL .....Lubricating Oil, General Purpose

FM .....Field Manual

FMTV.....Family, Medium Tactical Vehicles

HEMTT .....Heavy Expanded Mobility Tactical Truck

HMMWV.....High Mobility Multi-purpose Wheeled Vehicle

JP-8 .....Fuel Oil, Diesel

ILO.....Instrument Lubricating Oil

LAW.....Lubricating Oil, Weapon

LSA.....Lubricating Oil, Small Arms

LSAT-T .....Lubricant, Weapon, Semi-Fluid

MIL .....Military

MOGAS .....Motor Gasoline

NMC .....Not Mission Capable

OEA.....Oil, Engine, Arctic

OHT.....Hydraulic Fluid

RBC .....Rifle Bore Cleaner

SD .....Solvent, Degreasing

TM .....Technical Manual

USARAK.....United States Army Alaska

WTR .....Wide Temperature Range (Grease)